REMARKS

This is in response to the Office Action mailed March 28, 2001. Claims 1-23 were pending in the application and the Examiner rejected all claims. With this amendment, claim 21 is cancelled and claims 20 and 22 are amended and the remaining claims are unchanged in the application. Applicant respectfully traverses the Examiner's rejection.

On page 2 of the Office Action, the Examiner rejected claims 1-23 under 35 U.S.C. §103(a) as being unpatentable over Barnes et al. U.S. Patent No. 6,069,594 in view of Beasley et al. U.S. Patent No. 5,721,842. Applicant respectfully traverses the Examiner's rejection. The present claims are directed to a device which not only senses orientation of the computer input device, but also senses the input from either a multi-switch button or a rotatable input device.

In the examples shown in the Figures (and claimed), the multi-switch device is either a hat switch or a data pad (D pad). These devices are movable in multiple degrees of freedom and, when moved in the different degrees of freedom, depress different corresponding switches.

The rotatable device can be a wheel, a disc, or a ball, etc. which is rotated by the user to provide input information as well. Applicant submits that these features are neither taught nor suggested by the prior art relied on by the Examiner.

For instance, Barnes et al. does not show a multi-switch device. The Examiner cited elements 36a-36e in Barnes et al. as meeting the limitation of the multi-switch device. However, items 36a-36e are described toward the bottom of column 5 where it states "each key or pointer button can be actuated

independently or in any combination with other keys." Column 5, lines 43-45. Further, Barnes et al. states "in a preferred embodiment, keys 36 include at least 5 mouse buttons…". Column 5, lines 49-50. These passages make it clear that the switches are not a multi-switch device as claimed, but rather separate and distinct mouse buttons, such as conventional mouse buttons found on conventional mice. Therefore, Applicant submits that Barnes et al. neither teaches nor suggests a user input device which senses both orientation and receives a user input from a multi-switch device.

Similarly, the Examiner cited FIGS. 6A-6D of Barnes et al. as disclosing the rotatable user input device. However, Applicant traverses this suggestion. FIGS. 6A-6D specifically show the orientation sensor which senses the orientation of the user input device. Therefore, it would appear that the Examiner has cited this feature of the Barnes et al. patent as teaching not only the orientation sensor in the present claims, but also the rotatable input device. Of course, the present claims claim both of these things and the orientation sensor of Barnes et al. does not meet both limitations but, at best, only meets the limitation of the orientation sensor.

Beasley et al. does not cure these deficiencies.

More specifically, independent claim 1 is drawn to a method of preparing a data packet which includes "receiving information indicative of a physical orientation of the computer input device; receiving information indicative of a configuration of a multiple-switch device located on the computer input device and having a least two degrees of motional freedom, wherein movement of the multiple-switch device in the different degrees of motional freedom causes actuation of different switches in the

multiple-switch device". The mouse buttons 36a-36e do not have two different degrees of motional freedom corresponding to different switches.

Independent claim 16 is a data structure of a data structure indicative of a data packet containing the orientation field and the switch field containing a multiple-switch device data. Since neither Barnes et al. nor Beasley et al. disclose the multiple-switch device in combination with orientation sensor, they cannot disclose the generated data structure. Applicant thus submits that independent claim 16 is allowable for the same reasons as claim 1.

Independent claim 20 has been amended to include the multiple-switch device previously set out in dependent claim 21. Therefore, for the same reasons mentioned above with respect to claims 1 and 16, Applicant submits that independent claim 20 is now allowable as well.

Independent claim 13 is drawn to a method of preparing a data packet and includes the step of receiving the orientation information indicative of the physical orientation of the computer input device. However, claim 13 also includes the step of "receiving rotation information indicative of rotation of a rotatable member on the computer input device". Thus, claim 13 clearly includes the step of receiving the physical orientation data and receiving the rotation information. This is neither taught nor suggested by the references cited by the Examiner. For example, Barnes et al. only discloses orientation data, but not that in combination with information from a rotatable member on the input device. Thus, Applicant submits that independent claim 13 is allowable.

Independent claim 23 includes not only the steps of receiving orientation information and receiving the switch information from the multiple-switch device, as in independent claims 1 and 16, but it also includes receiving "receiving mode information indicative of a selected mode of operation". Thus, for the same reasons as independent claims 1 and 16, Applicant submits that independent claim 23 is allowable as well. In sum, Applicant submits that independent claims 1, 13, 16, 20 and 23 are allowable. Applicant also submits that dependent claims 2-12, 14-15, 17-19 and 22 are allowable as well. Reconsideration and allowance of claims 1-20 and 22-23 are respectfully requested.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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MARKED-UP VERSION OF REPLACEMENT CLAIMS

1.   (Amended)   A method of preparing a data packet indicative of operator manipulation of a hand held computer input device, the method comprising:

      receiving information indicative of a physical orientation of the computer input device;

      receiving information indicative of a configuration of a multiple-switch device located on the computer input device and having at least two different degrees of motional freedom wherein movement of the multiple-switch device in the different degrees of motional freedom causes actuation of different switches in the multiple-switch device; and

      placing data in an orientation field and a multiple-switch field in the data packet.

16.   (Amended) A data structure generated by a computer input device for transmission to a computer, comprising:

      an orientation field containing orientation data indicative of a pitch and roll physical orientation of the computer input device; and

      a switch field containing switch information indicative of a multiple-switch device located on the computer input device and having at least two different degrees of motional freedom wherein movement of the multiple-switch device in the different degrees of motional freedom causes actuation of different switches in the multiple-switch device.

20. (Amended)   A computer input device, comprising:

      a first housing portion including at least one user actuable input device;

a first extending handle, coupled to and extending away
    from, the first housing portion;

a second extending handle, coupled to and extending from the
    first housing portion;

an orientation sensor coupled to the first housing portion
    and sensing a physical orientation of the first housing
    portion and providing an orientation signal indicative
    thereof; [and]

a controller coupled to the orientation sensor and
    configured to receive the orientation signal and place
    data in an orientation field, based on the orientation
    signal, in a data packet[.];

a multiple-switch device having at least two different
    degrees of motional freedom and actuable by an operator
    such that movement of the multiple switch device in the
    different degrees of motional freedom causes actuation
    of different switches in the multiple-switch device,
    the controller being configured to receive switch
    information indicative of a configuration of the
    multiple-switch device and to place switch data in a
    multiple-switch field in the data packet based on the
    switch information.

Claim 21 has been cancelled.

22. (Amended) The computer input device of claim [21] 20 and
further comprising:

    a mode selector, actuable by an operator, the controller
        being configured to receive mode information indicative
        of a selected mode of a plurality of selectable modes
        of operation and to place the data in the orientation
        field and the multiple-switch field in the data packet
        based on the selected mode.

23. (Amended) A method of controlling a visual display on a
computer display device based on an input from a computer input
device, the method comprising:

    receiving orientation information indicative of a physical
        orientation of the computer input device;

    receiving switch information indicative of a configuration
        of a multiple-switch device located on the computer
        input device and having at least two <u>different</u> degrees
        of motional freedom <u>wherein movement of the multiple-</u>
        <u>switch device in the different degrees of motional</u>
        <u>freedom causes actuation of different switches in the</u>
        <u>multiple-switch device</u>;

    receiving mode information indicative of a selected mode of
        operation; and

    controlling the display device such that an object being
        displayed on the visual display device assumes a visual
        orientation corresponding to one of, the physical
        orientation of the computer input device as indicated
        by the orientation information and the configuration of
        the multiple-switch device as indicated by the switch
        information, based on the selected mode.